

# Department of Biology

UNIVERSITY OF  
WISCONSIN

OSHKOSH

College of Letters and Science

# Cell/Molecular/Professional Emphasis

## 63 credit min

### Core Courses (37 or 38 Credits)

Effective Fall 2018

BIO 105	Biological Concepts (NS)(XL)	B	(4) _____
<b>OR</b>			
BIO 108	Honors: Concepts in Bio (NS)(XL)	F	(5) _____
BIO 230	Biology of Animals (NS)(XL) (Bio 105)	B	(4) _____
BIO 231	Biology of Plants and Microbes (NS)(XL) (Bio 105)	B	(4) _____
BIO 319	General Animal Physiology (NS) (Bio 323, 1 yr. Chem)	B	(5) _____
<b>OR</b>			
BIO 345	Plant Physiology (NS) (1 term gen Bio, 1 yr. gen Chem, BIO 231)	S	(5) _____
<b>OR</b>			
BIO 450	Microbial Physiology (Bio 309)	F	(5) _____
BIO 323	Molecular and Cell Biology (Bio 105 and Chem 105 or Chem 101,102 w/B)	B	(3) _____
BIO 343	Genetics (NS)(Bio 323)	B	(4) _____
BIO 349	Ecology and Evolution (1 term gen Bio)	B	(3) _____
BIO 491	Senior Survey	B	(0) _____
CHEM 105	General Chemistry I (NS)(XL)	B	(5) _____
CHEM 106	General Chemistry II (NS)(XL)	B	(5) _____

### Additional Required Courses for Emphasis (14 Credits)

BIO 372	Medical & Environmental Applications of Cell Biology & Genetics (Bio 323)	S	(3) _____
CHEM 234	Organic Chemistry Lab I (Co-requisite Chem 235)	B	(1) _____
CHEM 235	Organic Chemistry I (NS) (Chem 106 w/C or better)	B	(3) _____
CHEM 334	Organic Chemistry Lab II (Chem 234/235 w/C or better)	B	(1) _____
CHEM 335	Organic Chemistry II (Chem 235 w/C or better)	B	(3) _____
CHEM 303	Biochemistry: Clinical Emphases (Chem 335)	B	(3) _____

### Any Two of the Following Lab Courses (4-10 Credits)

BIO 345	Plant Physiology (NS) (1 term gen Bio, 1yr gen Chem, and Bio 231)	S	(5) _____
BIO 374	Cell/Immunology Lab (NS) (Previous or C/Bio 341 or 372)	F	(3) _____
BIO 377	Microbial Genetics Lab (NS) (Bio 309 or 323)	F	(2) _____
BIO 390	Biotechnology Lab (NS) (Bio 309 or 323)	S	(2) _____
BIO 450	Microbial Physiology (NS) (Bio 309)	F	(5) _____

## **Electives (8 Credit Min.)**

BIO 300	Internship in Biology	B	(1-6)	_____
BIO 301	Internship in Microbiology	B	(1-6)	_____
BIO 306	Neurobiology (Bio 105 or equivalent)	S	(3)	_____
BIO 309	Bacteriology (NS) (Bio 150 and 1yr gen Chem)	B	(5)	_____
BIO 315	Virology (Bio 323)	S	(3)	_____
BIO 316	Developmental Biology (Bio 323 or equivalent)	S	(3)	_____
BIO 321	Mycology (NS) (1 term gen Bio)	F	(3)	_____
BIO 327	Microbial Ecology & Diversity (Bio 231 or 233 or 309)	F	(3)	_____
BIO 336	Freshwater Algae (NS) (Bio 231, 233, or 309)	F*	(3)	_____
BIO 337	Plant Anatomy (NS)	S*	(3)	_____
BIO 341	Immunology (Bio 323)	F	(3)	_____
BIO 345 (1)	Plant Physiology (NS) (1 term gen Bio, 1yr gen Chem and Bio 231)	S	(5)	_____
BIO 350	Electron Microscopy (NS)	F	(4)	_____
BIO 354	Parasitology (NS) (1 term gen Bio and Bio 230)	S	(3)	_____
BIO 374	Cell/Immunology Lab (NS) (Previous or C/Bio 341 or 372)	F	(3)	_____
BIO 375	Microbial Genetics (Bio 309 or 323)	F	(3)	_____
BIO 377 (2)	Microbial Genetics Lab (NS) (Bio 309 or 323)	F	(2)	_____
BIO 389	Principles of Biotechnology (Bio 309 or 323)	S	(3)	_____
BIO 390 (2)	Biotechnology Lab (NS) (Bio 309 or 323)	S	(2)	_____
BIO 446	Independent Study	B	(1-6)	_____
BIO 450 (1)	Microbial Physiology (NS) (Bio 309)	F	(5)	_____
BIO 474	Honor's Thesis (Honors program and junior standing)	B	(1-6)	_____
CHEM 304	Biochemistry Lab (NS) (Previous or C/Chem 303)			
CHEM 315	Advanced Biochemistry (NS) (Previous or C/Chem 303)			

(1): Counts here only if not used to fill preceding requirement

(2): Must take corresponding lecture course, previously or concurrently, with this lab course

Pre-requisites in parentheses • S = Spring • S\* = Spring Even years • F = Fall • F\* = Fall Even years  
B = Both Fall & Spring • C/ = Concurrent enrollment

## **Must meet General Education and Degree Requirements to earn BS Degree**

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